

**UNITED STATES DEPARTMENT OF COMMERCE****Patent and Trademark Office**Address: COMMISSIONER OF PATENTS AND TRADEMARKS
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/636, 536 08/10/00 STANGELAND

M 7784-0000074

EXAMINER

QMO2/1001

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P O BOX 828
BLOOMFIELD HILLS MI 48303NGUYEN, N
ART UNIT PAPER NUMBER

3

3745
DATE MAILED:

10/01/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No.	Applicant(s)
	09/636,536	STANGELAND ET AL.
	Examiner	Art Unit
	Ninh H. Nguyen	3745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on _____.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-3,5,6,9-11,13,14,16,17 and 19 is/are rejected.

7) Claim(s) 4,7,8,12,15,18, and 20 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ .
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> .	6) <input type="checkbox"/> Other: _____ .

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for lack of antecedent basis for the limitation “the contact force” on line 2 of the claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 5, 6, 9-11, 13, 14, 16, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Marra (5,373,922).

Marra discloses an integrally bladed turbine disk assembly (Figs. 1, 2) comprising an integrally bladed turbine disk 16; a damper 14 for damping vibration in the integrally bladed turbine disk, the damper including an annular member and a plurality of fingers 38, the annular member coupled to an axial face of the integrally bladed turbine disk (Fig. 2), the plurality of fingers coupled to and circumferentially spaced around the annular member, each of the fingers

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38 having a base portion coupled to the annular member and extending radially outwardly therefrom, each of the fingers including a contact surface for contacting the axial face of the integrally bladed turbine disk; wherein the annular member and the plurality of fingers are integrally formed and each of the fingers is adapted to move tangentially relative to the annular member such that contact between the contact surface and the axial face of the integrally bladed turbine disk reduces vibrations in the integrally bladed turbine disk when the integrally bladed turbine vibrates in a diametral mode shape;

wherein each of the plurality of fingers 38 includes a frictional surface 40 adapted to contact a face of the integrally bladed turbine disk;

wherein the frictional surface 40 of each of the plurality of fingers is arcuate in shape (the disk is arcuate in shape);

wherein each base portion is formed by a pair of circumferentially spaced, radially extending slots (see Fig. 1);

wherein the annular member is a continuous hoop (fig. 1);

wherein the annular member is shrunk-fit into a cavity formed into the axial surface (col. 3, lines 4-9); and

wherein axial face of the integrally bladed turbine disk includes a circumferentially extending wall member having a shape corresponding to a truncated inverse cone (Fig. 2), the contact surface of the plurality of fingers contacting the circumferential extending wall member

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to reduce vibrations in the integrally bladed turbine disk when the integrally bladed turbine disk vibrates in a diametral mode shape.

5. Claims 1, 5, 6, 9-11, 13, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Buxé (Applicant submitted IDS; 4,817,455).

Buxé discloses an integrally bladed turbine disk assembly (Figs. 1-9) comprising an integrally bladed turbine disk 12; a damper 32 (Fig. 2) for damping vibration in the integrally bladed turbine disk, the damper including an annular member and a plurality of fingers 34 (Fig. 4), the annular member coupled to an axial face of the integrally bladed turbine disk (Fig. 2), the plurality of fingers 34 coupled to and circumferentially spaced around the annular member, each of the fingers 34 having a base portion coupled to the annular member (Fig. 4) and extending radially outwardly therefrom, each of the fingers including a contact surface for contacting the axial face 28 of the integrally bladed turbine disk; wherein the annular member and the plurality of fingers are integrally formed and each of the fingers is adapted to move tangentially relative to the annular member such that contact between the contact surface and the axial face of the integrally bladed turbine disk reduces vibrations in the integrally bladed turbine disk when the integrally bladed turbine vibrates in a diametral mode shape;

wherein the frictional surface of each of the plurality of fingers is arcuate in shape (see Fig. 2; the disk is arcuate in shape);

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wherein each base portion is formed by a pair of circumferentially spaced, radially extending slots (see Fig. 4);

wherein the annular member is a continuous hoop (Fig. 4);

Allowable Subject Matter

6. Claims 4, 7, 8, 12, 15, 18, and 20 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
7. Claim 19 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Prior Art

The prior art made of record but not relied upon is considered pertinent to applicant's disclosure and consists of 3 patents.

Agram et al. (5,582,077), Novotny (4,848,182), and Landis, Jr. et al. (4,361,213) are cited to show various turbine disk dampening rings.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Ninh Nguyen whose telephone number is (703) 305-0061. The examiner can be normally reached on Monday-Friday from 8:00 A.M. to 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look, can be reached at (703) 308-1044. The fax number for this group is (703) 305-3588.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.



Ninh H. Nguyen
Patent Examiner
Art Unit 3745

nhn
September 24, 2001



EDWARD K. LOOK
SUPERVISORY PATENT EXAMINER
GROUP 3700
9/26/01